IMPACT OF COL ON THE PARTICIPATION BEHAVIORAL PATTERN OF LEARNERS AND TUTORS IN THE ONLINE DISCUSSION FORUM

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ABSTRACT

Besides the face-to-face tutorial session and self-managed learning mode, online discussion forum is the third essential pillar of Open University Malaysia's (OUM) blended learning approach. The state-of-the-art Learning Management System (LMS) helps its learners and tutors to extend classroom lesson into virtual learning environment without barriers in terms of time and space. Earlier research has shown that only 64% have participated from the LMS system and only 0.3% of the posting by tutors are considered excellent. In order to trigger online discussion, the system of Collaborative Online Learning (COL) makes the tutor create guided questions to set off a productive virtual dialogue amongst learners.

Our research investigates the impact of COL on the participation behavior of 135 tutors and 5903 students from one COL subject in the subject "Learning Skills" and three non-COL subjects in Mathematics, Marketing and Human Resources Development. The participation behavioral pattern refers to postings and responses made by learners and tutors in the online forum. The results of the research revealed that COL causes a significant increase in the participation of learners. Therefore, recommendations can be derived at how applied COL can manage to reduce the number of non-participation of both tutors and learners, increase satisfaction and improve performance.

Keywords: Collaborative Online Learning, Participation Behavioral Pattern, Online Discussion Forum

INTRODUCTION

Online participation forms part of the blended learning approach adopted at Open University Malaysia (OUM) besides self-managed learning and face-to-face tutorial session. Huge amount of money has been invested by OUM to develop the state-of-the-art Learning Management System to provide online learning support to both its students and tutors in order to facilitate learning outside the classroom.

In a research carried out by Abtar Kaur (2004) to find out the effectiveness of online discussion forum, it was found that 64% of the participating students have benefited from the forum in terms of course content and also as an extension to their face-to-face session. The study also found that only 0.3% of the posting of tutors are considered excellent and 98% needed more effort to improve on its relevancy and content. According to the study,

"most of the tutors answered questions posted by learners without supporting knowledge building among learners." (p.64)

Beginning from the January 2005 semester, the Collaborative Online Learning (COL) approach was introduced on seven subjects to pilot test the COL with the objective of increasing participation both by the learners and tutors and also to improve on the quality of questions and answers posted. Under the COL, learners are provided with guided questions to be discussed via online forum among peers and the tutor will act as a facilitator and moderator.

Objective

The objective of this paper is to investigate the impact of COL on the participation behavior of learners and tutors in the online discussion forum of OUM. The focus of the study will be on the learners' and tutors' participation only, regardless of its content. The outcome of the research is important, as it will help enhance online teaching and learning and help engaged students. Students who are engaged often lead to their satisfaction and thus become a predictor of retention.

LITERATURE REVIEW

The findings of the research carried out by Stanford University 20 years ago using Tutored Video Instruction, has proven that students engaged in a collaborative learning environment outperformed those in a non-collaborative learning environment (Johnson & Johnson, 1996 as cited in Michael J. Sipusic et al., 1999). Collaborative learning has become the key factor that makes distance learning as good if not better than traditional courses (Hiltz & Wellman, 1997, as cited in Caroline H., 2003). Hiltz pointed out that "collaborative learning and student teamwork were the educational methodology." (p. 16)

Mansor Fadzil (2005) has proposed five critical success factors in developing online learning, one of which is the human factor – by developing a new learning culture where learning must be learner centered, interactive and engaged in a collaborative online learning.

Collaborative learning brings participants together in some kind of social interaction where they feel they are more involved and thus learns more effectively. Online tutors play an important role in reassuring learners the support, making learners feel they have a good rapport with their tutors and that they are being assessed and guided. (Jeniffer Hofmann, 2004)

The use of online discussion forum could be very useful in teaching critical thinking as the Internet removes traditional time/place barriers. According to Suncana Kukolja Taradi and Milan Taradi (2004), discussion and writing are very powerful ways to

support learning. However it also creates new barriers in technology and behavioral changes due to lack of motivation and professional incentives.

According to a research conducted by Mark Bullen (1998), the collaborative online learning or computer conferencing should be given serious consideration to facilitate interaction and critical thinking. He pointed out several factors that can facilitate critical thinking among which include appropriate course design, instructor interventions, content, and students' characteristics.

Aviv and Golan (1998, as cited in Abtar Kaur, 2004), noted that "students' participation is often minimal without an instructor's participation." (p. 14). They suggested that planned, focused and guided online discussions can result in successful learning experience. Providing feedback especially encouraging comments, pointing out errors and correcting them and using leading questions in an online discussion helps in guiding and directing students to follow and continue their posting. (Kannan & Macnish, 2000, as cited in Abtar Kaur, 2004). According to Benfield (2002, as cited in Abtar Kaur, 2004) providing timely feedback is important as questions posted by students left unanswered for too long will discourage posting.

Kuldip Kaur (2005), in her research pointed out that learners sometimes do not participate in online forum because they do not know what to ask. According to Caron Osberg (2002), building collaborative components of e-learning into online training can foster learner interaction and feedback through threaded discussions and virtual classes where participants can share their ideas and experiences and benefit from that exchange. According to Johnson and Johnson (1996, as cited in Michael J. Sipusic et al., 1999), COL provides more "airtime" for students to ask questions and acquire new information. Students who are engaged in COL often make public conjectures about their knowledge. Feedback from students helped other group members refine their ideas.

Kinzie (2005) pointed out that students can learn under the right conditions. He noted that using a variety of active and collaborative pedagogical approaches can help engaged the students and address the learning of students who are less prepared to succeed. This is supported by the Self-Determination Theory (SDT) developed by Deci and Ryan (2000) which states that human are motivated by their innate psychological needs for competence, autonomy and relatedness.

RESEARCH METHODOLOGY

The research was carried out using data collected from the Online Discussion Monitoring section of the Learning Management System of OUM. It is based on one COL course and three non-COL courses and a comparison are then made to identify the participation behavioral pattern based on a set of indicators. The COL course selected in this research is the Learning Skills for Open and Distance Learners and the non-COL courses are

randomly selected, which involved the Management of Mathematics, Strategic Management and Human Resources Development courses.

The data collected for these courses involved the participation of 125 tutors and 5903 students in the online discussion forum at 95 per cent confidence level and one per cent confidence interval. These data are then tabulated and analyzed using Microsoft Excel. The number of posting or hits made by both students and tutors taken into consideration in the study will be a minimum of one posting in the online forum regardless of the content of the posting. The research is based on the hypothesis that guided online discussion via COL can help increase participation from both tutors and students.

To help understand the findings of the research, the following key terms are defined:

a. Number of Hits – refers to number of posting made in the online discussion forum
b. Total Hits – refers to total number of posting made in the online discussion forum
c. Average hits/tutor - refers to the total number of posting made by tutors divided by the total number tutors
d. Average hits/student – refers to the number of posting made by all divided by the number of students
e. Participation behavioral pattern – refers to the frequency of each category of hits made
f. General activities – refers to hits made for COL and non-COL related activities in the online discussion forum
g. Student's Participation Rate – refers to number of students who make at least one posting in the online discussion forum

FINDINGS

The following are the findings of the research:

a. Comparing Average Hits/Tutor and Average Hits/Student for COL course:

A total of 43,348 hits were captured in this course with 69.5% or 30,111 hits came from COL related activities. Out of the 8,551 hits made by tutors, 60.5% or 5,173 hits captured, relates to COL activities. A frequency distribution table based on the average total number of hits for per tutor and average number of hits per student for these data is as shown in Table. 1.

COL Course	General				COL			
	Ave Hits/tutor		Ave Hits/Stud		Ave Hits/tutor		Ave Hits/Stud	
Average Number of Hits	Freq.	%	Freq.	%	Freq.	%	Freq.	%
0 - 1	40	46.0	1	1.1	37	42.5	0	0.0
1 - 2	21	24.1	1	1.1	21	24.1	0	0.0

2 - 3	12	13.8	2	2.3	12	13.8	1	1.1
3 - 4	5	5.7	6	6.9	6	6.9	2	2.3
4 - 5	6	6.9	7	8.0	5	5.7	7	8.0
5 - 6	0	0.0	10	11.5	2	2.3	7	8.0
6 - 7	1	1.1	13	14.9	0	0.0	7	8.0
7 - 8	0	0.0	4	4.6	2	2.3	9	10.3
8 - 9	0	0.0	12	13.8	0	0.0	10	11.5
9 - 10	1	1.1	10	11.5	0	0.0	11	12.6
10 or more	1	1.1	21	24.1	2	2.3	33	37.9
Total	87	100	87	100	87	100	87	100

Table: 1

Generally the participation behavioral pattern displayed for general and COL related activities were similar. Figure 1 and 2 represent the participation behavioral pattern of tutors and students respectively for the COL course. Note that the frequency for tutors center on an average hits per tutor of between zero to three whereas for students, the frequency is above six hits per student. The same trend is not displayed in the non-COL courses.

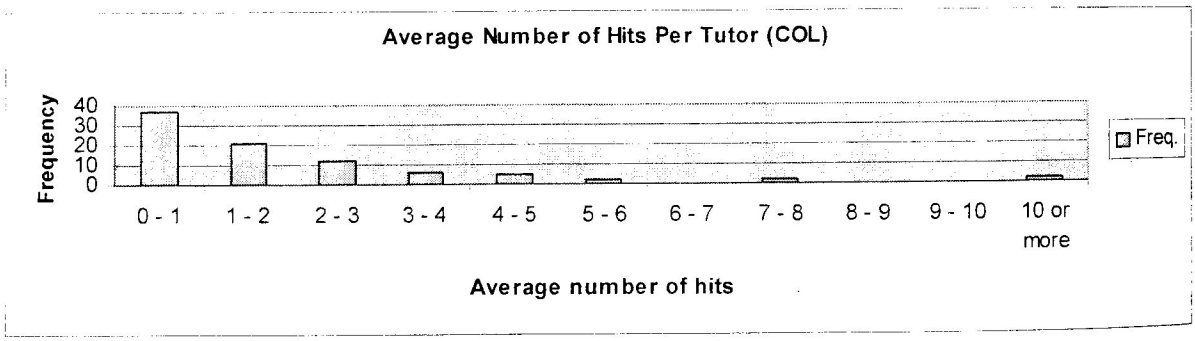

Fig. 1: Participation Behavioral Pattern of Tutors for Learning Skills for ODL (COL course)

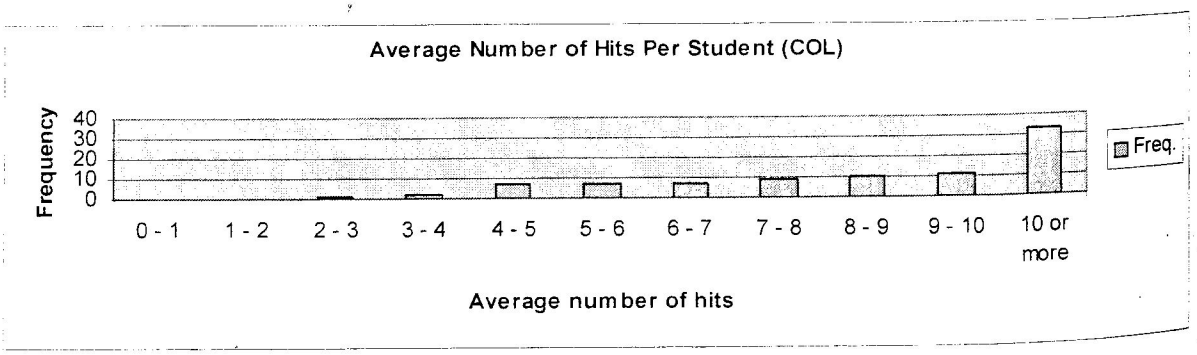

Fig. 2: Participation Behavioral Pattern of Students for Learning Skills for ODL (COL course)

b. Comparing Average Hits/Tutor and Average Hits/Student for non-COL course:

i. Management of Mathematics Course:

The data collected from this subject involved the participation of 27 tutors and 676 learners. A total of 4,549 hits were captured with 30.6% or 1,390 hits made by tutors. Figure 3 and 4 represent the frequency distribution of the participation behavioral pattern of tutors and students respectively for this course.

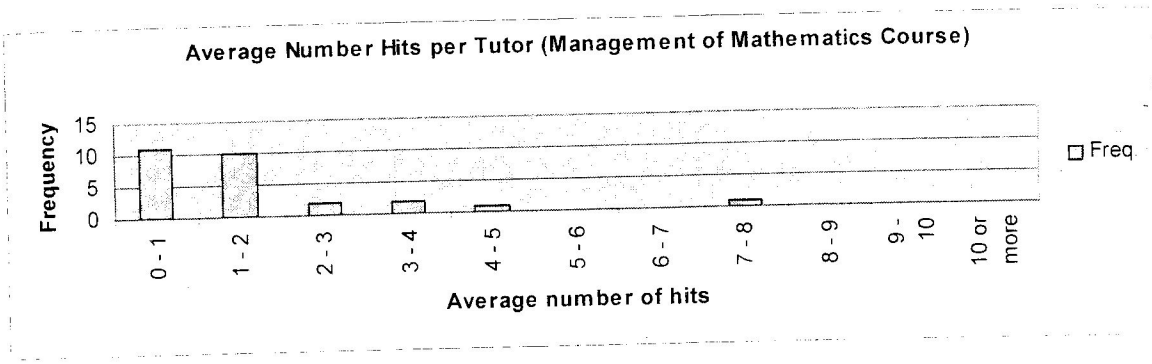

Fig. 3: Participation Behavioral Pattern of Tutors for Management of Mathematics Course

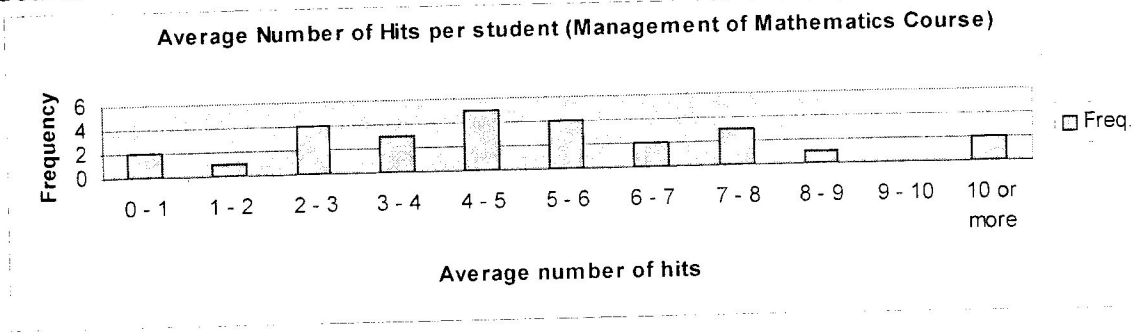

Fig. 4: Participation Behavioral Pattern of Students for Management of Mathematics Course

ii. Strategic Management Course:

The data collected from this subject involved the participation of 16 tutors and 264 learners. A total of 2,226 hits were captured with 42.1% or 937 hits made by tutors. Figure 5 and 6 represent the frequency distribution of the participation behavioral pattern of tutors and students respectively for this course.

Fig. 7: Participation Behavioral Pattern of Tutors for Human Resources Development Course

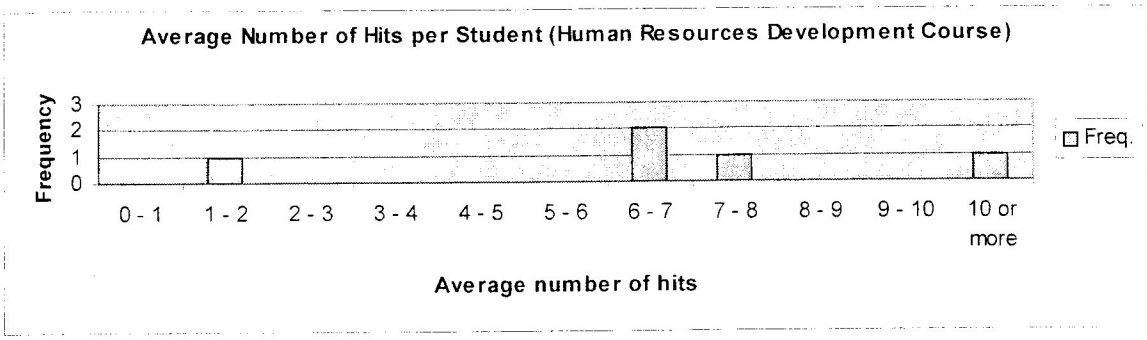

Fig. 8: Participation Behavioral Pattern of Students for Human Resources Development Course

c. Comparing average hits between COL and non-COL courses:

i. Average number of hits per Tutor (COL and non-COL courses):

Average Number of Hits per Tutor	
Course	**Ave Hits**
Learning Skills for ODL (COL)	2.1
Management of Mathematics (Non-COL)	2.1
Strategic Management (Non-COL)	3.5
Human Resources Development (Non-COL)	2.2

Table: 2

Table 2 shows the average number of hits per tutor for COL and non-COL courses. Note that there is no significant difference between COL and non-COL courses.

ii. Average number of hits per Student (COL and non-COL courses):

Table 3 shows the average number of hits per student for COL and non-COL courses. Note that there is the average hits are higher for COL course compared with non-COL courses.

Average Number of Hits per Student	
Subject	**Ave Hits**
Learning Skills for ODL	9
Management of Mathematics	6.7
Strategic Management	4.9
Human Resources Development	7.3

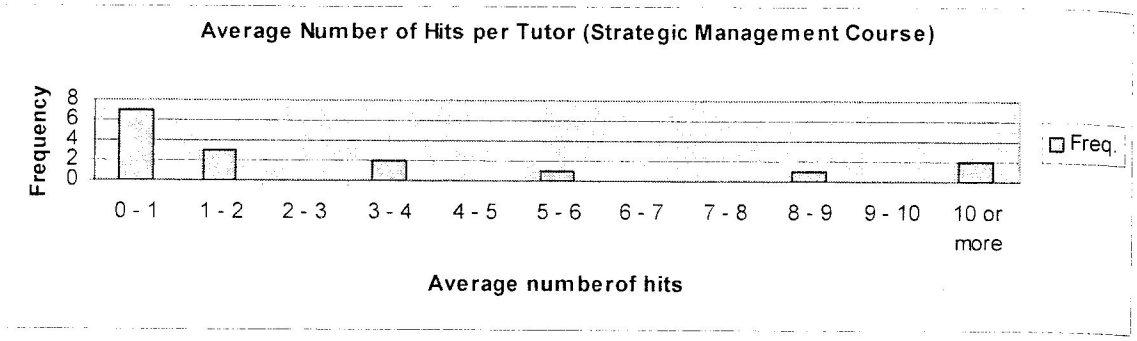

Fig. 5: Participation Behavioral Pattern of Tutors for Strategic Management Course

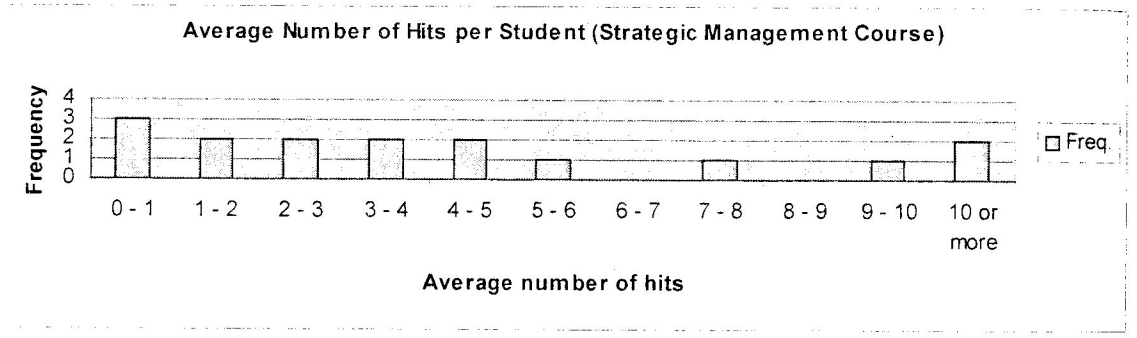

Fig. 6: Participation Behavioral Pattern of Students for Strategic Management Course

iii. Human Resources Development Course:

The data collected from this subject involved the participation of 5 tutors and 138 learners. A total of 1,310 hits were captured with 22.9% or 300 hits made by tutors. Figure 7 and 8 represent the frequency distribution of the participation behavioral pattern of tutors and students respectively for this course.

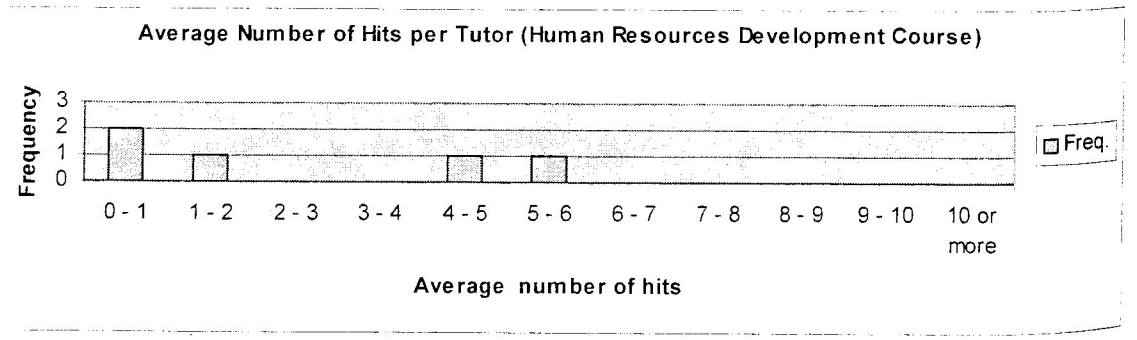

Table: 3

d. Comparing Tutor-Student Hits Ratio between COL and non-COL courses:

The COL course has a much lower Tutor-Student hits ratio as shown in Table 4 below.

Tutor-Student Hits Ratio			
Subject	**Tutor's Hits**	**Student's Hits**	**Ratio**
Learning Skills for ODL	8551	34797	0.25
Management of Mathematics	1390	3159	0.44
Strategic Management	937	1289	0.73
Human Resources Development	300	1010	0.30

Table: 4

e. Comparing Student's Participation Rate between COL and non-COL courses:

Table 5 shows the percentage participation in the online forum for COL and non-COL courses. Note that the participation rate for COL course is higher at 83.6%.

Average Student's Participation Rate	
Subject	**Percentage**
Learning Skills for ODL	83.6
Management of Mathematics	69.7
Strategic Management	62.1
Human Resources Development	73.9

Table: 5

CONCLUSION

Generally the introduction of COL has increased the participation of students in the online discussion forum from 64% (Abtar Kaur, 2004) to 83.6%. The average hits made by students are also higher. COL course captured an average of nine hits per student compared with non-COL courses ranging from four to seven. The percentage of students with average hits above nine is 88.5% (from Table 1). There is a clear trend in the participation behavioral pattern of students in the COL course (Fig. 2) as compared with non-COL courses (Fig. 4, 6 & 8). Hence, the COL has been successful in getting higher participation from students.

However, there is no significant difference in the average number of hits per tutor between COL and non-COL subjects (Table 2). The ratio of participation rate of tutor-student for COL course is 1 to 4 as compared to 1 to 2.3 for Management of Mathematics, 1 to 1.4 for Strategic Management and 1 to 3.3 for Human Resources

Development courses. What it means is that with COL, online tutors can play a more effective role as a facilitator and moderator because guided COL empowers students to respond to their peers as well instead of the normal 'I ask, you answer' type of response.

The findings of the research above are significant for online learning providers to get their learners engaged in learning. Engaged learners learns more effectively. Engaged learners feel a sense of belonging and that they are not alone as they now see they are part of the online community. COL does not necessarily require powerful hardware or software. You need human touch to guide learners and trigger discussion and provoke participation.

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